FSA Integration Partner

United States Department of Education

Federal Student Aid

ITA Architecture Maintenance Goals Report I

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1   Introduction

1.1   ITA Overview

The Integrated Technical Architecture (ITA) provides a standardized, reusable infrastructure for enabling business capabilities within the FSA application community. The long-term vision of the ITA is to provide an integrated, enterprise-wide technical architecture that will enable FSA to reduce the number of custom-built applications that are difficult and costly to update and maintain.

1.2   Executive Summary

The ITA Architecture Maintenance Goals Report I (January 15, 2003) documents the architecture maintenance services provided by the ITA team between November 1-December 31, 2002. These maintenance services were provided to FSA applications using ITA product software and Reusable Common Services hosted in the ITA development, testing, and staging environments. The following is a brief overview of the contents of each section of this report:

Section 1 Introduction:

- Provides an overview of the contents of this report.

Section 2 Environments:

- Describes the pre-production environment (development, testing, staging) and includes a detailed diagram of this environment.

- Lists successfully provided environments and includes a diagram of these environments.

Section 3 ITA Product Software:

- Provides a summary of ITA product software.

Section 4 Infrastructure Updates and Enhancements:

- Provides an overview of the updates and enhancements section of this document.

- Summarizes the updates and enhancements that were performed between November 1-December 31, 2002.

Section 5 Reusable Common Services (RCSs)

- Summarizes the changes to any RCSs hosted in the ITA architecture.

2 Pre-Production Environments

2.1 Development/Testing/Staging Environment

The pre-production environments consist of development, testing, and staging. In the development environment, the application teams develop components that will be used in various applications. These components are then tested for functionality in the testing environment. The final area of pre-production, staging, offers the opportunity to prepare the components before their migration to the production environment.

2.1.1 Pre-Production Environment Diagram

FSA ITA Release 4
Development/Testing/Staging Environment
Logical Diagram
As of 12/31/2002
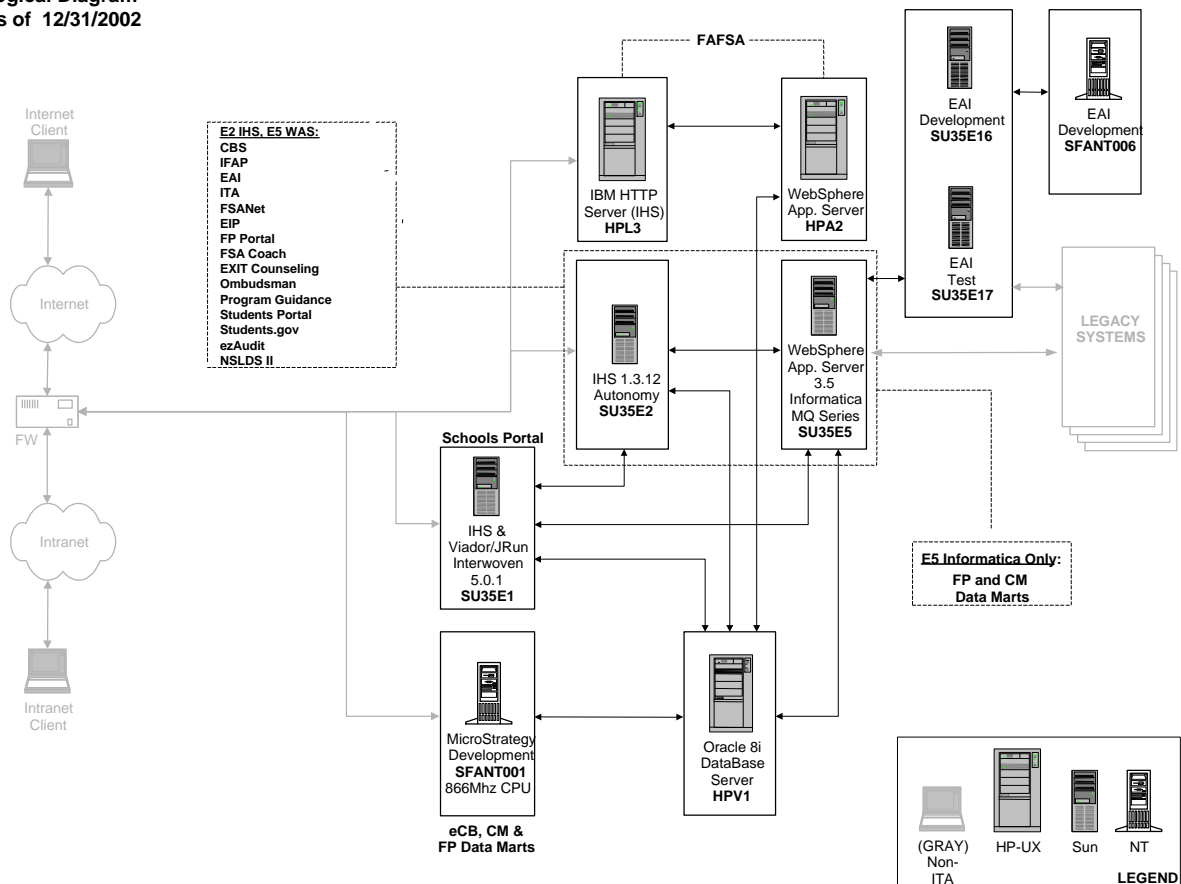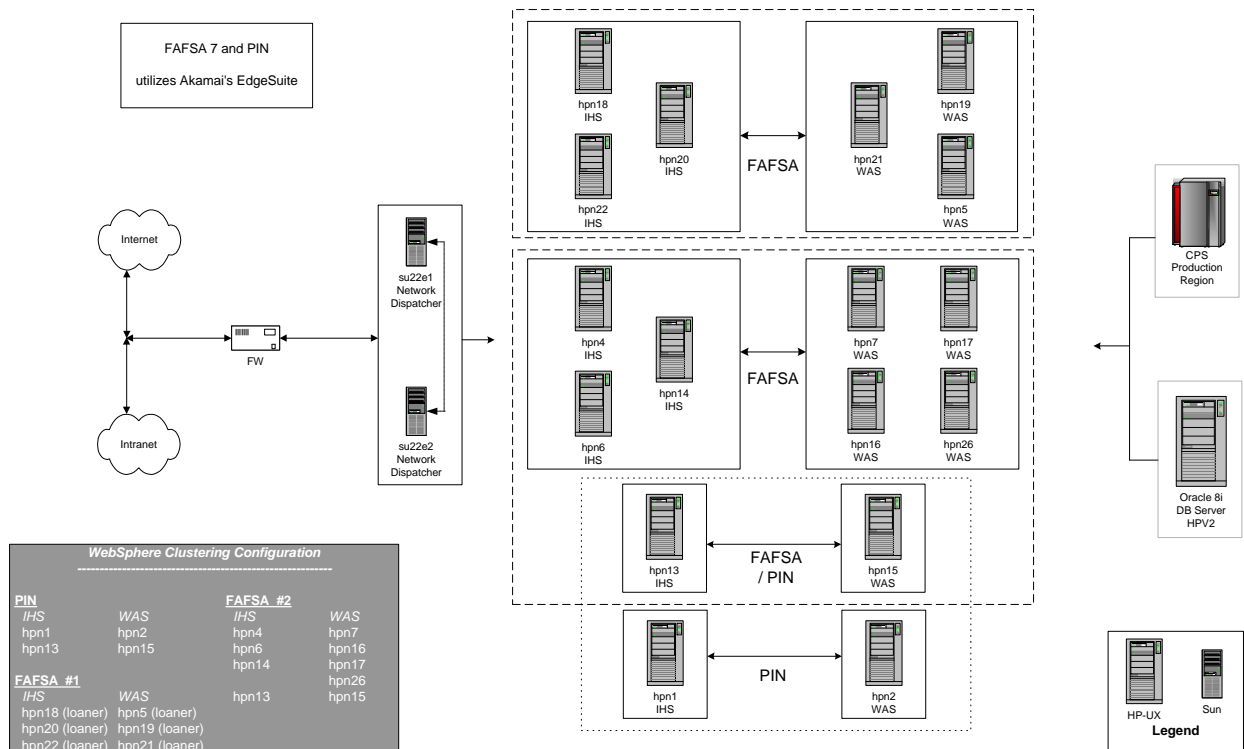
2.2 ITA Provided Environments

2.2.1 FAFSA 7.0

In the staging environment, FAFSA 7.0 will be used to finalize any FAFSA distributions before production.

2.2.2 FAFSA PIN

The FAFSA PIN will be used in the staging environment to finalize any PIN distributions before production.

2.2.3 Diagram of FAFSA 7.0 and PIN

3   ITA Product Software

Another key objective of ITA Architecture Maintenance Services is to provide product software maintenance. This section provides the details of the ITA product software such as Software, Environment, and Current Version.

3.1   Table of ITA Product Software

The table below presents details of what product software is installed in which environment and what version of the software has been installed in that environment.

Software	*Environment	Current Version
IBM HTTP Server (IHS)	dev,tst,stg	v1.3.12.5
WebSphere Application Server (WAS)	dev,tst,stg	v3.5.6
Autonomy	dev,tst,stg	v3.1.13.2
eNetwork Dispatcher	dev,tst,stg	v3.6.1.11
Interwoven	dev,tst,stg	v5.0.1
Microstrategy	dev,tst,stg	v7i
Solaris	dev,tst,stg	v2.6

*dev=development, tst=testing, stg=staging

IBM HTTP Server (IHS)

IBM's web serving offering is based upon the Apache web server. The implementation that IBM has custom tailored allows for tight integration into the IBM WebSphere applications and other IBM products. It allows for the serving of multiple web documents, while providing necessary application interaction.

IBM WebSphere Application Server (WAS)

The IBM WebSphere Application Server manages, deploys, programs, and integrates development like IBM's WebSphere. It makes use of Java technology compatibility for most web application offerings. One of its most useful features is that it is a highly configurable solution for a small offering or a large enterprise. It is the middleware between the HTTP servers and the databases.

Autonomy

Through the use of Autonomy the entire Internet offering is easily parsed into a searchable resource. Users can seamlessly search for content throughout enterprise offered information. It does this through its connectors that combine varying forms of resources (databases, HTML pages, e-mails, etc.) into one easily accessible resource.

Network Dispatcher

This IBM product is an integrated portion of the IBM Edge Server. Network Dispatcher provides load balancing. It administers the resource balancing between clusters of web servers and application servers. It is one of many components within the ITA network architecture that allows for high availability.

Interwoven TeamSite

As a product of the Interwoven Platform, TeamSite enables content contribution, collaboration, and management across the enterprise. It provides the necessary components to streamline business processes, integrate currently used productivity tools, and accelerate all eBusiness initiatives.

Microstrategy

This product provides reporting, analysis, and information delivery capabilities.

Solaris

Sun Solaris is the Unix based operating system (OS) running on the HP and Sun servers.

4   Infrastructure Updates and Enhancements

4.1   Updates and Enhancements Matrix

The updates and enhancements log included in Section 4.2 of this document provides detailed information for development, testing, staging, and performance environment issues addressed with updates or enhancements between November 1, 2002 and December 31, 2002. The matrix is organized chronologically by application name.

This matrix consists of the following categories:

- Date Opened: Provides the date the issue was opened.

- Application: Denotes the name of the application.

- Description: Offers a description of the issue.

- Environment: Lists the environment(s) in which the issue occurred (Development, Test, Staging, Performance).

- Resolution: Summarizes steps taken by the ITA team to resolve an issue.

- Priority: Provides the issue's level of priority ranging (high, medium, low).

- Issue Status: Indicates the issue's status (open, closed).

- Issue Resolution/Target Date: Provides the issue's resolution date or target date.

4.2 Updates and Enhancements Log

Date Opened	Application	Environment	Description	Resolution	Priority	Issue Status	Issue Resolution/ Target Date
10/14/02	FAFSA	Dev, Test	The web server plugin file needs to be updated as a result of newly added servlets.	Completed move of rules.properties file to HPL3 from HPA2 for both dev and test environments. Both recycled.	Medium	Closed	11/14/02
11/18/02	FAFSA	Dev, Test	Revoke/remove the following userid/password combination: (fafsaapi/fafsaapitst) Add the following userid/password combinations: fafsaapipre/tstprepop stateapi/tststateapi	Removed user ID/password fafsaapi/fafsaapitst from the dev and test environment. Added user ID/passwords fafsaapipre/ tstprepop; stateapi/tststateapi to the dev and test environments.	Medium	Closed	12/09/02
11/18/02	FAFSA	Dev	Development environment requires a change to the channel definition and the creation of a Properties file defining a list of Valid IP Addresses. The valid IP Address will be for WAS and WSAD. This should be done on 11/20 after the Pooling Migration is Validated.	Changed the channel definition and created a properties file defining a list of valid IP addresses for WAS and WSAD.	Medium	Closed	12/11/02

Date Opened	Application	Environment	Description	Resolution	Priority	Issue Status	Issue Resolution/ Target Date
11/18/02	FAFSA	Dev, Test, Stage, Perf	Need to create a new URI for the StudentAccessServlet. Current emails have a link to the eSAR being /FOTW23WebApp/sar and the URI should be added to the FAFSAWeb app.	Added the URI to the FAFSAWebApp.	High	Closed	12/10/02
11/20/02	FAFSA	Dev	In order to allow FAFSA perf testing w/ 2 N-class web servers, a 198 network interface needs to be added to HPN3 so it can be used as a web server. Currently HPN3 only has a 4.20 network interface.	The interface has been successfully added.	Medium	Closed	12/03/02
11/25/02	FAFSA	FOTW Demo Dev	Need to update the FOTWPin datasource in the demo envs to use the PIN database on HPV2. This will make sure all demo configs are using production. The datasource should use: SID EACDEMO port 1650 Server: V2	Updated FOTWPIN datasource in the demo dev environment to use the PIN database on HPV2.	High	Closed	11/25/02

Date Opened	Application	Environment	Description	Resolution	Priority	Issue Status	Issue Resolution/ Target Date
11/25/02	FAFSA	FOTW Demo Dev	Currently seeing very slow response from Demo Dev and getting the 500 Internal Server Error. Also seeing errors from the EAI calls. AFOTWDatabase.executeCicsProg(): EAI exception occurred. Reason Code: 2 Reason Message: No reply received within specified timeframe Exception Message: No reply received within specified timeframe	Not occurring as of 11/25/02 at 4:04 PM. Restart may have resolved issue.	High	Closed	11/25/02
12/02/02	FAFSA	Dev, Test, Stage, Perf	The rcs.xml file that controls the ITA logger is in a different location on almost all the FAFSA environments and it is in an illogical location. Can ITA get the RCS logger put in the same location for all ITA environments? The location should be: <fafsa home>\properties\rcs.xml where <fafsa home> is the root of the fafsa app. So /www/dev/fotw for dev or /www/tst/fotw for test or /www/dev/fotwdemo for demodev, etc... This directory and the rcs.xml file should be owned by NCSMerge so ITA has control to update.	Moved the rcs.xml file to the /fotw/properties directory in all environments. Re-configured WAS to point to the rcs.xml file in the properties directory.	Medium	Closed	12/03/02

Date Opened	Application	Environment	Description	Resolution	Priority	Issue Status	Issue Resolution/ Target Date
12/06/02	FAFSA	Dev, Test, Demo Dev	Modify the location of the generic error page. Currently for generic web server errors (404, 403, etc...) ITA has set up a gerrdb.htm file to display. Currently these env are locating that file at /www/<env>/fotw/htdocs/fotw0203/gerrdb.htm. We have moved that file to be in a cycle independent location. It should be updated to /www/<env>/fotw/htdocs/gerrdb.htm.	Modified the IHS configuration to point to the new location of the generic error page.	Medium	Closed	12/11/02
12/09/02	FAFSA	Perf	Change production and performance test environments to prevent checks for newer version of servlets. Currently these environments are set up to re-load servlets if a newer version is found. This should not happen in ITA production environments.	This has been successfully completed.	High	Closed	12/15/02
12/11/02	FAFSA	Dev	Roll new FAFSA & PIN servers into the production environment.	FAFSA & PIN servers rolled into production.	Medium	Closed	12/22/02
12/16/02	FAFSA	Dev, Test	The test server HPL3 is down. Cannot telnet into the machine. All the development and test sites are currently unavailable.	WebSphere went down over the weekend. It was restored without any issues.	High	Closed	12/16/02

Date Opened	Application	Environment	Description	Resolution	Priority	Issue Status	Issue Resolution/ Target Date
12/18/02	FAFSA	Stage	ITA needs to get the FAFSA stage environment in sync with all the other environments. This environment will be used to verify all release TAR files before they are deployed to the production environment. This environment should point to the same database as performance test. This way ITA is sure that any database updates that are needed for a release are done correctly too.	FAFSA stage environment created on hpl3 and hpa2.	Medium	Closed	01/07/03
12/19/02	FAFSA	Prod, Perf	On HPN13 when ssl is used to access the PIN site, files from the FAFSA installation are being displayed.	NCS was accessing the site incorrectly. ITA informed them of the proper procedures.	High	Closed	12/19/02
12/21/02	FAFSA	Prod	HPN3 not available.	When the HPN3 was moved to a web server, CSC did not open the firewall correctly. This was corrected on 12/27.	High	Closed	12/27/02
11/01/02	IFAP	All environments	Need to add a new Publication Type named Foreign Schools Materials (foreignsmaterials) into Publication Type Selection list in search page of IFAP Production and Test sites. The directory is htdocs/ foreignsmaterials/.	The Autonomy Database "Foreignsmaterials" was added to the test environment.	Medium	Closed	11/14/02

Date Opened	Application	Environment	Description	Resolution	Priority	Issue Status	Issue Resolution/ Target Date
11/05/02	IFAP	Test	Receiving an "Internal Server Error" message when accessing the IFAP test site (E5/E2) from browsers.	Restarted WAS Server and the problem was fixed.	Medium	Closed	11/06/02
11/06/02	IFAP	Dev	Please add the Summary column to DD file in order to access the database from the Summary field on the IFAP/FAFSA/datacapture.cfg of IW. <column name="SUMMARY" value-from-field="Summary"/>	Summary column added as requested.	High	Closed	11/13/02
11/14/02	IFAP	Test	As on the choices of servers to deploy to in Interwoven deployment screen, with the su35e2 selected, it should push data into the IFAPTST. If open deployment goes to test, please change the data deployment to test IFAPTST.	Re-configured Interwoven to push IFAP documents to the IFAPTST database.	Medium	Closed	11/14/02

Date Opened	Application	Environment	Description	Resolution	Priority	Issue Status	Issue Resolution/ Target Date
11/29/02	IFAP	Test	Schools Portal test site has been unavailable development. SP Test site: http://test.schoolsportal.ed.gov:8181/SFAPortal/home/index.htm JRun error message is been displaying as below: Could not connect to JRun Connector Proxy. Please contact the system administrator for this web site.	The application server was restarted.	High	Closed	11/29/02
12/09/02	IFAP	Test	IFAP TEST environment (http://test.ifap.ed.gov:8532/IFAPWebApp/index.jsp) is unavailable. Receiving Server 500 error.	Restarted the application in WAS.	Medium	Closed	12/09/02

Date Opened	Application	Environment	Description	Resolution	Priority	Issue Status	Issue Resolution/ Target Date
12/09/02	IFAP	All environments	Grant restart privileges to dev, test and stage for IFAP and also Schools portal on su35e2 and Schools Portal on su35e1 to the following developers: Ming Chen - echen (or inddxv?) - echen@induscorp.com Xiaofu Xie - indxxx - xxie@induscorp.com Andy Jea - indcyj - ajea@induscorp.com	Users were added to the appropriate Unix group with restart privileges on su35e1. Users already have access to restart the application on e2.	Low	Closed	01/08/03
12/24/03	IFAP	Test	Receiving an error - Internal Server Error, when accessing http://test.ifap.ed.gov:8532/IFAPWebApp/index.jsp from a browser.	The application server was restarted.	Low	Closed	12/27/02
11/01/02	PIN	Test	Need read access on the following log files in /opt/tst/HTTPServer/logs. pin_access.log pin_error.log pin_ssl_error.log pin_ssl_access.log	Granted access to all for read. Modified movelogs script to ensure permissions endure.	Medium	Closed	11/01/02

Date Opened	Application	Environment	Description	Resolution	Priority	Issue Status	Issue Resolution/ Target Date
12/09/02	PIN	Dev, Test	Add alias to PIN site for email pin retrieval. To be backwards compatible with the email PINS currently being distributed the following alias needs to be added to the dev and test environments for testing. https://dev.pin.ed.gov:8460/epin needs to go to https://dev.pin.ed.gov:8460/PINWebApp/PINS ervlet	Added PIN site alias to IHS configuration file.	Medium	Closed	12/12/02
12/11/02	PIN	All	Need to add some security to the deployment and un-deployment of the Web Service. Right now all of that ability is open the entire internet.	The DeployedServices.ds file has been made un-writeable to prevent unauthorized changes to the Web Service.	Medium	Closed	12/15/02
12/18/02	PIN	Stage	Need a PIN stage env created and in sync with all the other PIN environments. This environment will be used to verify all release TAR files before they are deployed to the production environment. The environment should point to the same database as performance test.	PIN stage environment created on hpl3 and hpa2.	Medium	Closed	01/07/03

5   Reusable Common Services (RCSs)

The RCS provides common technical and business services that are required for virtually every web-based application within FSA. These services can be built once and reused across all the applications. ITA Release 4.0 is maintaining the existing RCS library. The following list details changes made to any RCS(s) maintained in Release 4.0.

- **Search RCS**: the Search RCS was maintained and its functionality for IFAP was changed so that search results now display a document's URL and date.